

What is claimed is:

- 1           1.     An anchor plate for anchoring an intradiscal device to an  
2     endplate of a vertebra, the anchor plate comprising:  
3           a plate member sized to be positioned within an intradiscal  
4     section between adjacent vertebrae; and  
5           a plurality of anchoring elements extending from a surface of the  
6     plate member, each anchoring element including a distal portion  
7     capable of being introduced into the vertebra through the vertebral end  
8     plate.
- 1           2.     An anchor plate according to claim 1 wherein the anchor plate  
2     includes at least 3 anchoring elements.
- 1           3.     An anchor plate according to claim 1 wherein the anchor plate  
2     has a non-smooth surface.
- 1           4.     An anchor plate according to claim 1 wherein the anchor plate  
2     has at least one hollow bore.
- 1           5.     An anchor plate according to claim 1 wherein at least one of the  
2     anchoring elements includes a lumen.
- 1           6.     An anchor plate according to claim 1 wherein at least one of the  
2     anchoring elements includes a lumen at least 0.5 mm in diameter.
- 1           7.     An anchor plate according to claim 1 wherein the anchoring  
2     elements extend substantially perpendicular from the anchor plate.

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1 8. An anchor plate according to claim 1 wherein the anchoring  
2 elements extend angularly from the anchor plate.

1 9. An anchor plate according to claim 1 wherein the anchoring  
2 elements have at least one curved distal end.

1 10. An anchor plate according to claim 1 wherein the anchoring  
2 elements have a smooth outer surface.

1 11. An anchor plate according to claim 1 wherein the anchoring  
2 elements do not include a thread for screwing the anchoring element  
3 into the vertebral.

1 12. An implantable device for insertion into an intradiscal section  
2 between adjacent vertebrae, the device comprising:  
3 an anchor plate comprising a plate member sized to be  
4 positioned within an intradiscal section between adjacent vertebra and a  
5 plurality of anchoring elements extending from a surface of the plate  
6 member, each anchoring element including a distal portion capable of  
7 being introduced into an end plate of one of the adjacent vertebrae; and  
8 an intradiscal component coupled to the anchor plate.

1 13. An implantable device according to claim 12 wherein the anchor  
2 plate includes at least 3 anchoring elements.

1 14. An implantable device according to claim 12 wherein the anchor  
2 plate has a non-smooth surface.

1 15. An implantable device according to claim 12 wherein the anchor  
plate have at least one hollow bore.

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1 16. An implantable device according to claim 12 wherein at least one  
2 of the anchoring elements includes a lumen.

1 17. An implantable device according to claim 12 wherein at least one  
2 of the anchoring elements includes a lumen at least 0.5 mm in  
3 diameter.

1 18. An implantable device according to claim 12 wherein the  
2 anchoring elements extend substantially perpendicular from the anchor  
3 plate.

1 19. An implantable device according to claim 12 wherein the  
2 anchoring elements extend angularly from the anchor plate.

1 20. An implantable device according to claim 12 wherein the  
2 anchoring elements have at least one curved distal end.

1 21. An implantable device according to claim 12 wherein the  
2 anchoring elements have a smooth outer surface.

1 22. An implantable device according to claim 12 wherein the  
2 anchoring elements do not include a thread for screwing the anchoring  
3 element into the vertebral.

1 23. An implantable device according to claim 12 wherein the  
2 intradiscal component includes a spacer.

1 24. An implantable device according to claim 12 wherein the  
2 intradiscal component includes a cage having a first side for positioning  
3 adjacent a first vertebra and a second side for positioning adjacent a

1 second vertebra, the first side including a plurality of holes through  
2 which the anchoring elements on the anchor plate can be positioned,  
3 and the second side including at least one hollow bore.

1 25. An implantable device according to claim 12 wherein the  
2 intradiscal component includes an artificial disc.

1 26. An implantable device according to claim 12 further includes at  
2 least one channel.

1 27. An implantable device for insertion into an intradiscal space  
2 between adjacent vertebra, the device comprising:  
3 a first anchor plate comprising a plate member sized to be  
4 positioned within an intradiscal section between adjacent vertebra and a  
5 plurality of anchoring elements extending from a surface of the plate  
6 member, each anchoring element including a distal portion capable of  
7 being introduced into an end plate of one of the adjacent vertebrae;  
8 a second anchor plate comprising a plate member sized to be  
9 positioned within an intradiscal section between adjacent vertebra and a  
10 plurality of anchoring elements extending from a surface of the plate  
11 member, each anchoring element including a distal portion capable of  
12 being introduced into an end plate of one of the adjacent vertebrae; and  
13 an intradiscal component coupled to the first and second anchor  
14 plates.

1 28. An implantable device according to claim 27 wherein the  
2 intradiscal component includes a spacer.

1 29. An implantable device according to claim 27 wherein the  
2 intradiscal component includes a cage having a first side for positioning

adjacent a first vertebra and a second side for positioning adjacent a second vertebra, the first side including a plurality of holes through which the anchoring elements on the first anchor plate can be positioned, and the second side including a plurality of holes through which the anchoring elements on the second anchor plate can be positioned.

30. An implantable device according to claim 27 wherein the intradiscal component includes an artificial disc.

31. An implantable device according to claim 27 wherein the device further includes at least one channel.

32. A method for attaching an anchor plate to one of the end plates of adjacent vertebrae, the method comprising:  
 creating a space between adjacent vertebrae;  
 inserting into the space created an anchor plate comprising a plate member sized to be positioned within the space and a plurality of anchoring elements extending from a surface of the plate member, each anchoring element including a distal portion capable of being introduced into an end plate of one of the adjacent vertebrae; and  
 causing the anchoring elements on the anchor plate to be introduced into the vertebrae through the vertebral end plate.

33. A method according to claim 32 wherein at least one of the anchoring elements includes a lumen.

34. A method according to claim 32 wherein the anchor plate includes at least one hollow bore.

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1 35. A method according to claim 32 wherein causing the anchoring  
2 elements to be introduced into the vertebrae is achieved by applying a  
3 force to the anchor plate approximately perpendicular to a plane of the  
4 end plate so as to cause the anchoring elements on the anchor plate to  
5 be introduced into the vertebra through the vertebral end plate.

1 36. A method according to claim 32 wherein causing the anchoring  
2 elements to be introduced into the vertebrae is achieved without rotating  
3 the anchoring elements.

1 37. A method according to claim 32 wherein causing the anchoring  
2 elements to be introduced into the vertebrae is achieved without first  
3 creating one or more holes in the vertebrae for the anchoring elements.

1 38. A method for anchoring an implantable device within an  
2 intradiscal section between adjacent vertebrae, the method comprising:  
3 creating a space between adjacent vertebrae;  
4 inserting into the space created an implantable device comprising  
5 an anchor plate comprising a plate member sized to be positioned within  
6 the space and a plurality of anchoring elements extending from a  
7 surface of the plate member, each anchoring element including a distal  
8 portion capable of being introduced into an end plate of one of the  
9 adjacent vertebrae, and an intradiscal component coupled to the anchor  
10 plate; and  
11 causing the anchoring elements on the anchor plate to be  
12 introduced into the vertebrae through the vertebral end plate.

1 39. A method for anchoring an implantable device within an  
2 intradiscal section between adjacent vertebrae, the method comprising:  
3 creating a space between the adjacent vertebrae;

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1 inserting into the space created an implantable device comprising  
2 a first anchor plate comprising a plate member sized to be  
3 positioned within the space and a plurality of anchoring elements  
4 extending from a surface of the plate member, each anchoring  
5 element including a distal portion capable of being introduced into  
6 an end plate of one of the adjacent vertebrae,

7 a second anchor plate comprising a plate member sized to  
8 be positioned within the space and a plurality of anchoring  
9 elements extending from a surface of the plate member, each  
10 anchoring element including a distal portion capable of being  
11 introduced into an end plate of one of the adjacent vertebrae, and  
12 an intradiscal component coupled to the first and second anchor -  
13 plates; and

14 causing the anchoring elements on the first and second anchor  
15 plates to be introduced into the adjacent vertebrae through each of the  
16 vertebral end plates.

1 40. A method according to claim 39 wherein causing the anchoring  
2 elements to be introduced into the vertebrae is achieved by  
3 simultaneously extending the anchoring elements of the first and second  
4 anchor plates into the vertebral end plates.

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